



# UNITED STATES PATENT AND TRADEMARK OFFICE

TV

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,871	02/11/2004	Rachel E. Meyers	MPI02-107CN1M	4007
30405	7590	06/20/2006	EXAMINER	
MILLENNIUM PHARMACEUTICALS, INC.			PAK, YONG D	
40 Landsdowne Street			ART UNIT	
CAMBRIDGE, MA 02139			PAPER NUMBER	

1652

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



### **DETAILED ACTION**

This application is a continuation of 10/175,696.

Claims 1-19 are pending.

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-4 and 8, drawn to DNA encoding cytochrome P450, vector comprising said DNA, host cell comprising thereof and a method of producing said polypeptide, classified in class 435, subclass 189.
- II. Claims 5-6, drawn to a cytochrome P450, classified in class 435, subclass 189.
- III. Claim 7, drawn to antibody against the dehydrogenase, classified in class 530, subclass 387.9.
- IV. Claims 9-11, drawn to a method of detecting the presence of the polypeptide and a kit, classified in class 435, subclass 25.
- V. Claims 12-14, drawn to a method of detecting the presence of the polynucleotide and a kit, classified in class 435, subclass 6.
- VI. Claim 15, drawn to a method for identifying a compound which binds to the polypeptide, classified in class 514, subclass 789.
- VII. Claims 16, drawn to a method of modulating the activity of the polypeptide of Invention II, classified in class 435, subclass 18.

Art Unit: 1652

- VIII. Claims 17-18, drawn to a method for inhibiting an aberrant activity of a 32229 expressing cell with an antibody, classified in class 435, subclass 325.
- IX. Claim 19, drawn to a method for treating or preventing a disease with an antibody, classified in class 424, subclass 130.1.

Applicants are required to elect ONE nucleotide sequence selected from SEQ ID NO:1, 3, 4, 6, 7, 9, 13, 15, 16, 18, 22, 24, 28 or 30 and/or ONE polypeptide sequence selected from SEQ ID NO: 2, 5, 8, 14, 17, 23 or 29.

This is not an election of species. The nucleotide sequences of Group I and the polypeptide sequences of Group II are independent chemical entities and require independent search in the patent and non-patent literature.

The inventions are distinct, each from the other because of the following reasons:

The products groups II-III are patentably distinct inventions because groups I and III are drawn to polypeptides and group I is drawn to a polynucleotide.

The polynucleotide of group I and polypeptide of group II are patentably distinct inventions for the following reasons. Polypeptides, which are composed of amino acids, and polynucleotides, which are composed of purine and pyrimidine units, are structurally distinct molecules; any relationship between a polynucleotide and polypeptide is dependent upon the information provided by the nucleic acid sequence open reading frame as it corresponds to the primary amino acid sequence of the encoded polypeptide. While a polypeptide of group II can be made by methods using

Art Unit: 1652

some, but not all, of the polynucleotides that fall within the scope of group I, it can also be recovered from a natural source using by biochemical means. For instance, the polypeptide can be isolated using affinity chromatography. For these reasons, the inventions of groups I and II are patentably distinct.

Furthermore, searching the inventions of groups I and II together would impose a serious search burden. In the instant case, the search of the polypeptides and the polynucleotides are not coextensive. The inventions of Groups I and II have a separate status in the art as shown by their different classifications. In cases such as this one where descriptive sequence information is provided, the sequences are searched in appropriate databases. There is search burden also in the non-patent literature. Prior to the concomitant isolation and expression of the sequence of interest there may be journal articles devoted solely to polypeptides which would not have described the polynucleotide. Searching, therefore is not coextensive.

The polypeptide of group II and the antibody of group III are patentably distinct for the following reasons:

While the inventions of both group II and group III are polypeptides, in this instance the polypeptide of group II is a single chain molecule that functions as an enzyme, whereas the polypeptide of group III encompasses antibodies. Thus the polypeptide of group II and the antibody of group III are structurally distinct molecules; any relationship between a polypeptide of group II and an antibody of group III is dependent upon the correlation between the scope of the polypeptides that the antibody

Art Unit: 1652

binds and the scope of the antibodies that would be generated upon immunization with the polypeptide.

In this case, the polypeptide of group II is a large molecule which contains potentially hundreds of regions to which an antibody may bind, whereas the antibody of group III is defined in terms of its binding specificity to a small structure within SEQ ID NO: 2. Thus immunization with the polypeptides of group II would result in the production of antibodies outside the scope of group III.

Furthermore, searching the inventions of group II and group III would impose a serious search burden. The inventions have a separate status in the art as shown by their different classifications. A polypeptide and an antibody which binds to the polypeptide require different searches. An amino acid sequence search of the full-length protein is necessary for a determination of novelty and unobviousness of the protein. However, such a search is not required to identify the antibodies of group III. Furthermore, antibodies which bind to an epitope of a polypeptide of group II may be known even if a polypeptide of group II is novel. In addition, the technical literature search for the polypeptide of group II and the antibody of group III are not coextensive, e.g., antibodies may be characterized in the technical literature prior to discovery of or sequence of their binding target.

The polynucleotide of group I and the antibody of group III are patentably distinct for the following reasons. Polypeptides, such as the antibody of group III which are composed of amino acids, and polynucleotides, which are composed of nucleic acids, are structurally distinct molecules; any relationship between a polynucleotide and

Art Unit: 1652

polypeptide is dependent upon the information provided by the nucleic acid sequence open reading frame as it corresponds to the primary amino acid sequence of the encoded polypeptide. In the present claims, a polynucleotide of group I will not encode an antibody of group III, and the antibody of group III cannot be encoded by a polynucleotide of group I. Therefore the antibody and polynucleotide are patentably distinct.

The antibody and polynucleotide inventions have a separate status in the art as shown by their different classifications. Furthermore, searching the inventions of group I and group III would impose a serious search burden since a search of the polynucleotide of group I is would not be used to determine the patentability of an antibody of group III, and vice-versa.

Invention II and Inventions IV and VI-VII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the protein of group II can be used for the production of antibodies against the protein. Searching the inventions of group II and groups IV and VI-VII together would impose serious search burden. The inventions of groups II and IV and VI-VII have a separate status in the art as shown by their different classifications. Moreover, even if the polypeptide product were known, the methods of groups IV and VI-VII may be novel and unobvious in the view of the preamble or active steps.

Inventions I and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the DNA of Invention I can be used for the production of the protein of group II or in hybridization assays.

Searching groups I and V together would impose serious search burden. Groups I and V have a separate status in the art as shown by their different classifications. Moreover, even if the polynucleotide product were known, the method of group V may be novel and unobvious in the view of the preamble or active steps.

Inventions III and Inventions VIII-IX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the antibody of Invention III can be used for identifying the polypeptide of Invention II. Searching group III and group VIII-IX together would impose serious search burden. Group I and groups VIII-IX have a separate status in the art as shown by their different classifications. Moreover, even if the polynucleotide product were known, the method of groups VIII-IX may be novel and unobvious in the view of the preamble or active steps.



Inventions IV-IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different function or different effects. (MPEP 806.04, 808.01). The instant specification does not disclose that these methods would be used together. The method of using a polypeptide (groups IV and VI-VII), the method of using a polynucleotide (group IV) and the method of using antibodies (groups VIII-IX) are all unrelated as they comprise distinct steps and utilize different products which demonstrates that each method has a different mode of operation. Each invention performs this function using structurally and functionally divergent material. Therefore, the method of group IV-IX are divergent in materials and steps. Further, the distinct steps and products require separate and distinct searches. As such, it would be burdensome to search groups IV-IX together.

Inventions IV and VI-VII are unrelated because the specification does not disclose that these methods would be used together. The methods are divergent in steps and have different modes of operation. Each invention performs this function using structurally and functionally divergent material. Further, the distinct steps require separate and distinct searches. As such, it would be burdensome to search groups IV and VI-VII together. Similarly, Inventions VIII-IX are unrelated because the specification does not disclose that these methods would be used together. The methods are divergent in steps and have different modes of operation. Each invention performs this function using structurally and functionally divergent material. Further, the distinct steps

Art Unit: 1652

require separate and distinct searches. As such, it would be burdensome to search groups VIII-IX together

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised

Art Unit: 1652

that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 571-272-0935. The examiner can normally be reached 6:30 A.M. to 5:00 P.M. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Yong D. Pak  
Patent Examiner 1652

  
Manjunath Rao  
Primary Patent Examiner 1652